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TRANSMITTAL OF APPEAL BRIEF

Docket No.
SON-2196

In re Application of: S. Negishi, et al

Application No.	Filing Date	Examiner	Group Art Unit
09/931,577-Conf. #2196	August 17, 2001	M. P. Vanhandel	2424

Invention: DATA TRANSMISSION SYSTEM, DATA TRANSMITTING APPARATUS AND METHOD, AND SCENE DESCRIPTION UNIT AND METHOD

TO THE COMMISSIONER OF PATENTS:

Transmitted herewith is the Appeal Brief in this application, with respect to the Notice of Appeal filed: July 30, 2008 .

The fee for filing this Appeal Brief is Previously Paid 1/16/2009 .

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40,290

Dated: March 9, 2009

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MAR 09 2009
PATENT & TRADEMARK OFFICE

Docket No.: SON-2196
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
S. NEGISHI, et al.

Application No.: 09/931,577 | Confirmation No.: 2196

Filed: August 17, 2001 | Art Unit: 2424

For: DATA TRANSMISSION SYSTEM, DATA TRANSMITTING APPARATUS AND METHOD, AND SCENE DESCRIPTION UNIT AND METHOD | Examiner: M. P. Vanhandel

SUPPLEMENTAL APPEAL BRIEF

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Madam:

This Supplemental Appeal Brief address material entered into the record by the Advisory Action of February 3, 2009, mailed after the filing of Appellant's Appeal Brief on January 16, 2009.

As required under § 41.37(a), this brief is filed more than two months after the Notice of Appeal filed in this case on July 30, 2008, and is in furtherance of said Notice of Appeal.

The fees required under § 41.20(b)(2) are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief contains items under the following headings as required by 37 C.F.R. § 41.37 and M.P.E.P. § 1205.2:

I.	Real Party In Interest
II	Related Appeals and Interferences
III.	Status of Claims
IV.	Status of Amendments
V.	Summary of Claimed Subject Matter
VI.	Grounds of Rejection to be Reviewed on Appeal
VII.	Argument
VIII.	Claims
Appendix A	Claims
Appendix B	Evidence
Appendix C	Related Proceedings

I. REAL PARTY IN INTEREST

The real party in interest for this appeal is Sony Corporation, of Tokyo, Japan. An assignment of all rights in the present application to Sony Corporation was executed by the inventors and recorded by the United States Patent and Trademark Office at Reel 012332, Frame 0691.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

A. Total Number of Claims in Application

There are 46 claims pending in application.

B. Current Status of Claims

1. Claims canceled: none

2. Claims withdrawn from consideration but not canceled: none

3. Claims pending: 1, 14, 27-30, 32-43, 45, 46, 48-52, 78, 95-109, 116-120

4. Claims allowed: none

5. Claims rejected: 1, 14, 27-30, 32-43, 45, 46, 48-52, 78, 95-109, 116-120

C. Claims On Appeal

The claims on appeal are claims 1, 14, 27-30, 32-43, 45, 46, 48-52, 78, 95-109, 116-120.

IV. STATUS OF AMENDMENTS

Appellant filed an Amendment on January 16, 2008 in response to the Non-Final Office Action issued on October 16, 2007. The claim amendments introduced in the Amendment of January 16, 2008 were entered.

Appellant filed a Request for Reconsideration on May 28, 2008. The Examiner responded to the Request for Reconsideration in an Advisory Action mailed July 30, 2008. In the Advisory Action, the Examiner indicated that the Request for Reconsideration did not place the application in condition for allowance.

On January 8, 2009, Appellant identified a problem with the status of claims 110-115, in that claim 110 was improperly followed by claim 112, instead of claim 111. Since the claims were entered in this condition, but fail to comply with 37 C.F.R. § 1.126, Appellant filed a Second After-final Response on January 8, 2009, seeking to correct the claim numbering issue by cancelling claims 110-115, and reintroducing the claims 110-115 as new claim 116-120 in proper consecutive order. As of the filing of this Supplemental Appeal Brief, in the Advisory Action dated February 3, 2009, the Examiner has indicated that the Second After-Final Response filed on January 8, 2009 was entered.

Accordingly, the claims enclosed herein as Appendix A do incorporate the Second After-Final Response on January 8, 2009.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The following description is for illustrative purposes and is not intended to limit the scope of the invention. The specification cited is the specification marked filed on August 17, 2001.

An example embodiment of the present invention may relate to a data transmission system, apparatus, method, and scene description processing unit and method. The example embodiment modifies both a scene description and its elementary streams (ES) based on, for example, the detected status of a transmission medium. The scene description contains data indicating, for example, the layout of a scene, including the arrangement, size, volume, and other attributes for ESes within a scene. The ESes may include, for example, still images, video, audio data, text data, and graphic data. While adjusting the data size of the ESes alone to account for bandwidth would improve the distribution rate and efficiency of the scene and its related ES data, failing to modify the scene description based on the changes to the ESes may result in the display of ES content at an inappropriate size or resolution. For example, if a scene requires the use of a video at 800x600 pixels, but the bandwidth only supports the transmission of 200x150 pixel video, the display of the 200x150 pixel video at 800x600 pixels would be non-optimal and would appear distinctly blurry to the user. By changing the corresponding scene description to display the 200x150 pixel video at 200x150 pixels, and shifting other elements of the scene to compensate for the smaller video display, the user can experience a more optimal viewing experience that corresponds to the quality of the transmission and hardware capabilities.

Independent claim 1 recites: [a] data transmission system comprising:

a transmitting apparatus (Fig. 1, el. 10; p. 18, l. 24) that transmits a scene description; and

a receiving apparatus (Fig. 1, el. 20; p. 19, l. 1) that constructs a scene according to the scene description;

wherein the transmitting apparatus comprises:

an elementary stream (ES) processing means (Fig. 1, el. 3; p. 19, ll. 8-12) that transfers at least one ES, which conforms to at least one of a transmission line state and a request issued from the receiving apparatus (p.22, l. 17 – p. 23, l. 2),

a scene description processing means (Fig. 1, el. 2) that transfers and modifies a scene description to conform to a corresponding quality of the at least one ES from the ES processing means by adjusting the properties assigned to the ES within the scene description (p. 24, ll. 12-15), and

wherein the transmitting apparatus appends time information to the at least one ES and the scene description (p. 21, ll. 11-15); and

wherein the receiving apparatus monitors the time information sent from the transmitting apparatus and detects a delay in transmission using the time information (p. 21, ll. 15-19).

Independent claim 14 recites: [a] data transmitting method for transmitting a scene description that describes at least one elementary stream (ES) used to construct a scene (p. 18, l. 19 – p.19, l. 5), and constructing the scene according to the scene description, comprising:

transmitting at least one ES, which conforms to at least one of a transmission line state and a request issued from the receiving side (p.22, l. 17 – p. 23, l. 2);

transmitting a scene description that conforms to the at least one ES (p. 24, ll. 12-15);

appending time information to the transmitted scene description (p. 21, ll. 11-15); and

monitoring the time information to detect delays in transmission using the time information (p. 21, ll. 15-19).

Independent claim 27 recites: [a] data transmitting apparatus for transmitting a scene description that describes at least one elementary stream (ES) used to construct a scene (Fig. 1, el. 10; p. 18, l. 24), comprising:

an ES processing means that transfers at least one ES (Fig. 1, el. 3; p. 19, ll. 8-12), which conforms to at least one of a transmission line state and a request issued from a receiving side (p.22, l. 17 – p. 23, l. 2);

a scene description processing means (Fig. 1, el. 2) for transferring and modifying a scene description, in accordance with the at least one ES from the ES processing means, by adjusting the properties assigned to the ES within the scene description (p. 24, ll. 12-15).

Independent claim 33 recites: [a] data transmitting apparatus according to Claim 27, further comprising:

wherein the scene description processing means transfers a scene description that specifies whether the at least one ES is to be used to construct a scene are used or not (p. 38-39).

Independent claim 40 recites: [a] data transmitting method for transmitting a scene description that describes the properties of at least one elementary stream (ES) used to construct a scene (p. 18, l. 19 – p.19, l. 5), comprising:

transmitting at least one ES, which conforms to at least one of a transmission line state and a request issued from the receiving side (p.22, l. 17 – p. 23, l. 2);

transmitting a scene description in accordance with the corresponding quality of the at least one ES (p. 24, ll. 12-15);

appending time information to at least one of the transmitted scene description and the at least one ES (p. 21, ll. 11-15).

Independent claim 46 recites: [a] data transmitting method according to Claim 40, wherein the scene description specifies whether to use the at least one ES (p. 38-39).

Independent claim 78 recites: [a] data transmission system comprising:

a transmitting apparatus (Fig. 1, el. 10; p. 18, l. 24) that transmits a scene description; and

a receiving apparatus (Fig. 1, el. 20; p. 19, l. 1) that constructs a scene according to the scene description;

wherein the transmitting apparatus comprises:

a elementary signal (ES) processor (Fig. 1, el. 3; p. 19, ll. 8-12) that transfers at least one ES used to construct the scene, in accordance to the transmission capacity (p.22, l. 17 – p. 23, l. 2), and

a scene description processor (Fig. 1, el. 2) that transmits a scene description and a time information, the scene description conforming to a transmission capacity (p. 24, ll. 12-15), the transmission capacity being derived from at least one of a transmission line state, a request issued from the receiving apparatus, or known available resources of the receiving apparatus (p. 21, l. 25 – p. 22, l. 16);

wherein the receiving apparatus monitors the time information sent from the transmitting apparatus to detect a delay in the transmission (p. 21, ll. 11-15); and

wherein the scene description includes objects, the objects comprising at least one node and at least one signal used to construct the scene, each the node describing an object or a relationship between objects (p. 21, ll. 15-19).

Independent claim 95 recites: [a] data receiving apparatus for receiving a scene description that describes at least one elementary stream (ES) used to construct a scene (Fig. 1, el. 20; p. 19, l. 1), comprising:

an ES decoding unit (Fig. 1, el. 24) that receives at least one ES, which conforms to at least one of a transmission line state and a request issued from the data receiving apparatus (p.22, l. 17 – p. 23, l. 2);

a scene description decoding unit (Fig. 1, el. 23) for constructing a scene description, in which the properties assigned to the ES within the scene description conform to the at least one ES (p. 24, ll. 12-15).

Independent claim 98 recites: [a] data receiving apparatus according to Claim 95, wherein the scene description specifies whether the at least one ES is to be used to construct the scene (p. 38-39).

Independent claim 105 recites: [a] data receiving method for receiving a scene description that describes the properties of at least one elementary stream (ES) used to construct a scene (Fig. 1, el. 20; p. 19, l. 1), comprising:

receiving at least one ES, which conforms to at least one of a transmission line state and a request issued from a receiving side (p.22, l. 17 – p. 23, l. 2) ;

receiving a scene description in accordance with the corresponding quality of the at least one ES (p. 24, ll. 12-15);

wherein time information is appended to at least one of the received scene description and the at least one ES (p. 21, ll. 11-15).

Independent claim 109 recites: [a] data receiving method according to Claim 105, wherein the scene description specifies whether to use the at least one ES (p. 38-39).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Whether the Examiner erroneously rejected claims 27-30, 32-39, and 95-104 under 35 U.S.C. § 102 as unpatentable over U.S. Patent No. 5,953,506 to Kalra et al. ("Kalra").

B. Whether the Examiner erroneously rejected claims 1, 14, 27-30, 32-43, 45, 46, 48-52, 78, 105-109, and 116-120 under 35 U.S.C. § 103 over Kalra in view of Appellant's Admitted Prior Art ("AAPA").

VII. ARGUMENT

A. The Examiner erroneously rejected claims 27-30, 32-39, and 95-104 under 35 U.S.C. § 102 as unpatentable over U.S. Patent No. 5,953,506 to Kalra et al. ("Kalra").

1. Claims 27, 95, and their corresponding dependent claims

Fig. 2A

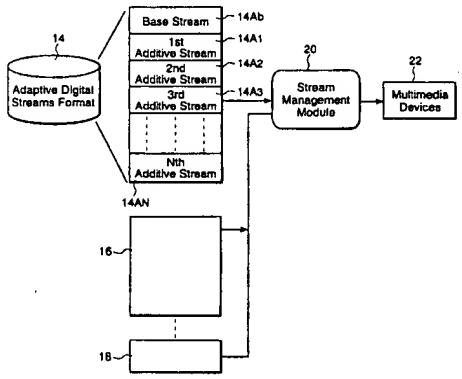


Fig. 2A of Kalra illustrates a Scalable Media Delivery System. Kalra discloses a system adapted to adjust a media stream transmitted to a client based on a client profile, which may include data relating to the client's data bandwidth and processing capabilities. Element 14A, in Fig. 2A, illustrates an Adaptive Digital Stream. Fig. 1 illustrates that this adaptive stream is produced by transcoder 10 from a Standard Digital Media 12. The Adaptive Digital Stream 14 includes a Basic Stream 14Ab having the essential portions of the data, and a series of Additive Streams 14A1-14AN which augment the Basic Stream 14Ab and are made available to the client based on the client profile. The media streams may include 3D, audio, or video streams tailored based on the client profile. Standard Digital Media 12 will generally be MPEG data, while the 3D stream is generally modified VRML.

Claim 27 recites:

[a] data transmitting apparatus for transmitting a scene description that describes at least one elementary stream (ES) used to construct a scene, comprising:

an ES processing means that transfers at least one ES, which conforms to at least one of a transmission line state and a request issued from a receiving side;

a scene description processing means for transferring and modifying a scene description, in accordance with the at least one ES from the ES processing means, by adjusting the properties assigned to the ES within the scene description.

With respect to claim 27, Kalra fails to teach or suggest "*an ES processing means that transfers at least one ES, which conforms to at least one of a transmission line state and a request issued from a receiving side [and] a scene description processing means for transferring and modifying a scene description, in accordance with the at least one ES from the ES processing means, by adjusting the properties assigned to the ES within the scene description...*"

Claim 27 discloses a transmitting apparatus having an elementary stream (ES) processing means and a scene description processing means. The elementary stream (ES) processing means "*transfers at least one ES, which conforms to at least one of a transmission line state and a request issued from a receiving side.*" The scene description processing means "*transfer[s] and modif[ies] a scene description, in accordance with the at least one ES from the ES processing means, by adjusting the properties assigned to the ES within the scene description.*" As such, the claims distinguish the elementary stream from the scene description, in that the scene description is modified "*by adjusting the properties assigned to the ES within the scene description.*"

In rejecting the ES processing means the Final Office Action recites:

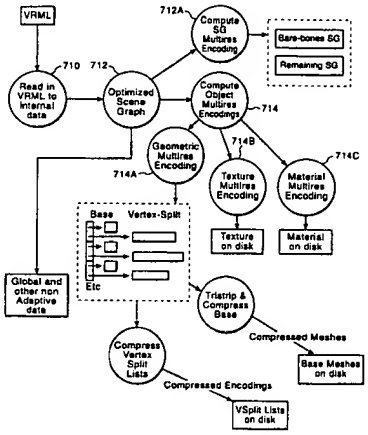
- a scene description processing means that transfers and modifies a scene description to conform to a corresponding quality of the at least

one ES from the ES processing means by adjusting the properties assigned to the ES within the scene description (col. 19,1. 47-64; col. 21, 1. 61-67; col. 22, 1. 37-53; & Fig. 17).

The cited portion of Kalra, from column 19-22 refers to the modifications made to a VRML format to create an adaptive stream (see Fig. 1). Columns 19-22 discuss how a 3D media stream originates as a single VRML media and is converted into a 3-D Adaptive Media Stream by the flowchart process shown in Fig. 17.

Particularly evident is the lack of *separate elementary streams and scene descriptions*. This is because the Office Action argues that these are the same object, ie., the VRML format.

Fig. 17



In setting forth the argument that claim 1 is obviated by Kalra, the Office Action mistakenly attempts to imply that the VRML format is separate from the adaptive media stream, whereas columns 19-22 explain that the VRML format becomes the Adaptive Media Stream. This is further illustrated in Fig. 17, which shows a flowchart of the transcoding process for converting a VRML format into an adaptive stream format, furthering the process illustrated in Fig. 1. While Kalra does discuss compression of the VRML format, Kalra fails to disclose that both elementary streams and a scene description.

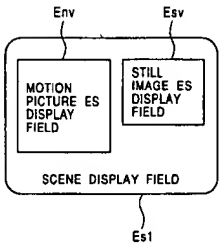
The claim recites "*a scene description processing means that transfers and modifies a scene description to conform to a corresponding quality of the at least one ES [] **by adjusting the properties assigned to the ES within the scene description***." This language distinguished the scene description from the media stream and identifies the media stream as having properties assigned to it within the scene description. As such, two pieces of data (i) the elementary stream and (ii) the scene description are recited.

This relationship is wholly absent in Kalra, where in columns 19-22, the VRML media is the media stream being modified. There is no second object being modified to account for the modified VRML data, and the VRML data is not modified to adjust the properties of another media stream. Instead, the VRML is modified to match a user profile. This is similar to the earlier portions of Kalra that discuss modifying an MPEG video stream based on the client profile.

No where does Kalra identify separate elements comparable to the scene description and ES.

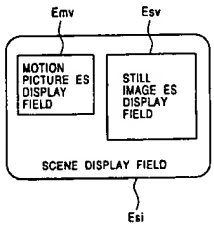
Furthermore, even if Kalra suggests both a scene description and the corresponding ESes, Kalra still fails to teach or suggest a "*scene description processing means [that]... modif[ies] a scene description, in accordance with the at least one ES from the ES processing means, by adjusting the properties assigned to the ES within the scene description.*" While Kalra recognizes the need to optimize and compress information transmitted from a server to a client. Kalra fails to recognize that the compression and reduction in data may require that the scene (or layout) of the data be modified to provide the user with a consistent and functional viewing experience.

FIG. 2



By example, Figs. 2 and 4 of the present application illustrate how the scene description is modified to account for changes in the ES. Fig. 2 (left) illustrates an unadjusted scene Es1 having two ESes (Env and Esv). Fig. 4 illustrates the same scene having been adjusted for a low bandwidth transmission. To compensate for the low bandwidth, Env (video content) size was reduced, and Esv (still image content) was increased in size to account for the extra space left by the reduced Env. Similarly, the scene description was modified to shift the position of Env and Esv to account for their changed size; in Fig. 4, Esv is provided with a larger view area beginning at a location that is shifted left from where it is in Fig. 2, and Env is allocated a smaller portion of the screen to prevent stretching of the video content.

FIG. 4



By distinction, when Kalra downgrades or upgrades the quality of video or image content within a Media Stream, Kalra does not modify the placement of the video or image content to account for changes in the quality of the video or image content. Kalra simply compresses this information in place. By contrast, claim 27 recites "*adjusting the properties assigned to the ES within the scene description,*" thereby recognizing that the scene description is adjusted to account for the changes to the ES.

Accordingly, Kalra fails to teach or suggest all the features of representative claim 27. For similar reasons stated above, claim 95 also overcomes Kalra. Furthermore, at least for the reason disclosed above, claims 28-30, 32-39, 96-104 overcome Kalra because they depend on independent claims 27 and 95.

2. Claim 33 and 98

Claim 33 recites:

> A data transmitting apparatus according to Claim 27, further comprising:
> wherein the scene description processing means transfers a scene description that specifies whether the at least one ES is to be used to construct a scene are used or not.

Kalra does not teach or suggest "*wherein the scene description processing means transfers a scene description that specifies whether the at least one ES is to be used to construct a scene are used or not.*"

The Office Action cites to columns 21-22 of Kalra as the basis for rejecting claim 33. However, as before, this rejection fails to distinguish between the scene description and the elementary stream. Columns 21-22 discuss the process by which the VRML media becomes an Adaptive Media Stream. This adaptive stream data allows for a reduced data stream to be sent to the client. However, Kalra is deficient with respect to the "scene description." That is, there is no scene description that is separate from the media stream, that is sent to the client or that is modified based on the media stream.

Furthermore, there is no component of the VRML format that shows a situation where a stream is simply removed from the VRML. As illustrated in Fig. 17 of Kalra, content is compressed for different transfer states, but not removed.

Accordingly, Kalra fails to teach or suggest all the features of representative claim 33. For similar reasons stated above, claim 98 also overcomes Kalra.

3. Claim 34 and 99

Claim 34 recites:

> A data transmitting apparatus according to Claim 27, wherein the scene description processing means transfers a scene description whose complexity conforms to the at least one ES.

Kalra does not teach or suggest that "*the scene description processing means transfers a scene description whose complexity conforms to the at least one ES.*"

That is, Kalra does not tie that complexity of the scene description to the ES. While Kalra discloses adjusting the resolution of the various components of the VRML data to conform to a transmission capacity, Kalra does not recognize the benefit of changing a scene description based on the changes to the ESes within the scene.

Accordingly, Kalra fails to teach or suggest all the features of representative claim 34. For similar reasons stated above, claim 99 also overcomes Kalra.

B. The Examiner erroneously rejected claims 1, 14, 27-30, 32-43, 45, 46, 48-52, 78, 105-109, and 116-120 under 35 U.S.C. § 103 over Kalra in view of Appellant's Admitted Prior Art ("AAPA").

1. Claim 1, 27, 40, 78, 95, 105 the dependent claims

Kalra is discussed above.

AAPA discloses functionality similar to that disclosed in Kalra. Particularly, the AAPA recognizes the use of compression to modify data streams to conform with client bandwidth and/or processing power. However, like Kalra, AAPA fails address the problem of displaying the reduced resolution media within a scene description tailored for regular resolution data. For example, while a given scene may display ideally with a full resolution media stream, when the media stream bit-rate is reduced, the media no longer displays properly, instead revealing blurred regions and reduced fidelity.

The present application overcomes this problem by adjusting the scene description to compensate for the reduced media stream. For example, when video resolution is reduced, the scene description compensates by reducing the screen space allocated to the video.

Claim 1 recites:

A data transmission system comprising:

a transmitting apparatus that transmits a scene description; and

a receiving apparatus that constructs a scene according to the scene description;

wherein the transmitting apparatus comprises:

an elementary stream (ES) processing means that transfers at least one ES, which conforms to at least one of a transmission line state and a request issued from the receiving apparatus,

a scene description processing means that transfers and modifies a scene description to conform to a corresponding quality of the at least one ES from the ES processing means by adjusting the properties assigned to the ES within the scene description, and

wherein the transmitting apparatus appends time information to the at least one ES and the scene description; and

wherein the receiving apparatus monitors the time information sent from the transmitting apparatus and detects a delay in transmission using the time information.

With respect to claim 1, neither Kalra nor AAPA teach or suggest "*an elementary stream (ES) processing means that transfers at least one ES, which conforms to at least one of a transmission line state and a request issued from the receiving apparatus, [and] a scene description processing means that transfers and modifies a scene description to conform to a corresponding quality of the at least one ES from the ES processing means by adjusting the properties assigned to the ES within the scene description.*"

Claim 1 discloses that the transmitting apparatus comprises an elementary stream (ES) processing means and a scene description processing means. The elementary stream (ES) processing means "*transfers at least one ES, which conforms to at least one of a transmission line state and a request issued from the receiving apparatus.*" The scene description processing means "*transfers and modifies a scene description to conform to a corresponding quality of the at least one ES from the ES processing means.*" As such, the claims distinguish the elementary stream from the scene description, in that the scene description is modified "*to conform to a corresponding quality of the at least one ES.*"

In rejecting the ES processing means the Final Office Action recites:

- a scene description processing means that transfers and modifies a scene description to conform to a corresponding quality of the at least one ES from the ES processing means by adjusting the properties assigned to the ES within the scene description (col. 19,1. 47-64; col. 21, 1. 61-67; col. 22, 1. 37-53; & Fig. 17).

The cited portion of Kalra, from column 19-22 refers to the modifications made to a VRML format to create an adaptive stream (see Fig. 1). Columns 19-21 discuss how a 3D media stream originates as a single VRML media and is converted into a 3-D Adaptive Media Stream by the flowchart process shown in Fig. 17. In setting forth the argument that claim 1 is obviated by Kalra, the Office Action mistakenly attempts to imply that the VRML format is separate from the adaptive media stream, whereas columns 19-22 explain that the VRML format becomes the Adaptive Media

Stream. This is further illustrated in Fig. 17 of Kalra, which shows a flowchart of the transcoding process for converting a VRML format into an adaptive stream format, furthering the process illustrated in Fig. 1 of Kalra.

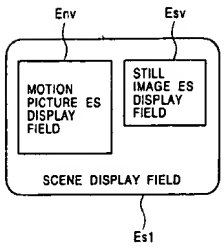
The claim recites "*a scene description processing means that transfers and modifies a scene description to conform to a corresponding quality of the at least one ES [] **by adjusting the properties assigned to the ES within the scene description***." This language distinguished the scene description from the ESes and identifies the ESes as having properties assigned to then within the scene description. As such, two pieces of data (i) the elementary stream and (ii) the scene description are recited.

This relationship is wholly absent in Kalra, where in columns 19-22, the VRML media is the media stream being modified. There is no second object being modified to account for the modified VRML data, and the VRML data is not modified to adjust the properties of another stream. Instead, the VRML is modified to match a user profile. This is similar to the earlier portions of Kalra that discuss modifying an MPEG video stream based on the client profile.

No where does Kalra identify a separate element comparable to the scene description. While Kalra recognizes the need to optimize and compress the information transmitted from a server to the client, Kalra fails to recognize that the compression and reduction in data may require that the scene (or layout) of the data be modified to provide the user with a consistent and functional viewing experience.

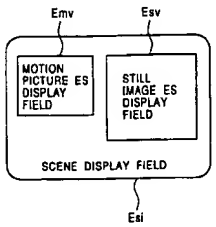
Furthermore, even if Kalra suggests both a scene description and the corresponding ESes, Kalra still fails to teach or suggest a "*scene description processing means [that]... modif[ies] a scene description, in accordance with the at least one ES from the ES processing means, by adjusting the properties assigned to the ES within the scene description.*" While Kalra recognizes the need to optimize and compress information transmitted from a server to a client. Kalra fails to recognize that the compression and reduction in data may require that the scene (or layout) of the data be modified to provide the user with a consistent and functional viewing experience.

FIG. 2



By example, Figs. 2 and 4 of the present application illustrate how the scene description is modified to account for changes in the ES. Fig. 2 (left) illustrates an unadjusted scene Es1 having two ESes (Env and Esv). Fig. 4 illustrates the same scene having been adjusted for a low bandwidth transmission. To compensate for the low bandwidth, Env (video content) size was reduced, and Esv (still image content) was increased in size to account for the extra space left by the reduced Env. Similarly, the scene description was modified to shift the position of Env and Esv to account for their changed size; in Fig. 4, Esv is provided with a larger view area beginning at a location that is shifted left from where it is in Fig. 2, and Env is allocated a smaller portion of the screen to prevent stretching of the video content.

FIG. 4



By distinction, when Kalra downgrades or upgrades the quality of video or image content within a Media Stream, Kalra does not modify the placement of the video or image content to account for changes in the quality of the video or image content. Kalra simply compresses this information in place. By contrast, claim 27 recites "*adjusting the properties assigned to the ES within the scene description,*" thereby recognizing that the scene description is adjusted to account for the changes to the ES.

AAPA does not remedy the deficiencies of Kalra because, like Kalra, AAPA only discloses a mechanism to modify the ESes to reduce bandwidth or bit-rate to account for the limitations of the client device. Like Kalra, AAPA does not discuss the modification of the scene description to compensate for the changes to the ESes. On the contrary, it is this very deficiency in the prior art that the present application seeks to remedy.

Kalra and AAPA perform largely the same functions, i.e., compressing or reducing media content based on existing conditions. However, neither teaches or suggests modifying the scene itself to account for these changes. Accordingly, neither provides the necessary motivation to modify a scene description based by adjusting the properties assigned to an ES within the scene description.

Instead, a combination of Kalra and AAPA would necessarily yield a system that is similar to what Kalra already does, i.e., produce and modify media streams based on user profiles and/or bandwidth. This is because the problems and solutions provided by Kalra and AAPA are both very similar, in that both simply provide an adjusted media content. However, neither teaches or suggests modifying a scene description to account for changes to the media stream.

Since even a combination of the relied upon references would still fail to yield the claimed invention, Appellant submits that a prima facie case of obviousness for claims 1 and 33 has not been presented. Appellant also notes that the offered combination appears to be a (failed) attempt to reconstruct the claimed invention in hindsight, as there is no basis to combine Kalra and AAPA to produce the present claimed invention.

Accordingly, neither Kalra nor AAPA either alone or in any proper combination teach or suggest the features of claim 1. For the reasons stated above, claims 14, 27, 40, 78, 95, and 105 also overcome the Kalra and AAPA. Furthermore, at least for the reason disclosed above, claims 28-30, 32-39, 41-43, 45, 48-52, 96, 97, 99-104, 106-109, and 116-120 overcome Kalra because they depend on independent claims 27, 40, 78, 95, and 105.

2. Claims 33 and 98

Claim 33 recites:

> A data transmitting apparatus according to Claim 27, further comprising:
> wherein the scene description processing means transfers a scene description that specifies whether the at least one ES is to be used to construct a scene are used or not.

Neither Kalra nor AAPA teach or suggest "*wherein the scene description processing means transfers a scene description that specifies whether the at least one ES is to be used to construct a scene are used or not.*"

The Office Action cites to columns 21-22 of Kalra as the basis for rejecting claim 33. However, as before, this rejection fails to distinguish between the scene description and the elementary stream. Columns 21-22 discuss the process by which the VRML media becomes an Adaptive Media Stream. This adaptive stream data allows for a reduced data stream to be sent to the client. However, Kalra is deficient with respect to the "scene description." That is, there is no scene description that is separate from the media stream, that is sent to the client or that is modified based on the media stream.

AAPA, like Kalra, does not address the removal of elements from a scene description. AAPA only discloses the reduction or compression of the size of the ESes used in a scene, not changing the scene description based on the ES changes.

Since neither reference teaches or suggests the removal of elements from a scene only compression of elements, this feature is not obvious in view of the references.

Accordingly, Kalra and AAPA fail to teach or suggest all the features of claim 33. For similar reasons stated above, claim 98 also overcomes the combination of Kalra and AAPA.

3. Claim 34 and 99

Claim 34 recites:

> A data transmitting apparatus according to Claim 27, wherein the scene description processing means transfers a scene description whose complexity conforms to the at least one ES.

Kalra does not teach or suggest "*the scene description processing means transfers a scene description whose complexity conforms to the at least one ES.*"

Kalra does not tie that complexity of the scene description to the ES. While Kalra discloses adjusting the resolution of the various components of the VRML data to conform to a transmission capacity, Kalra does not recognize the benefit of changing a scene description based on the changes to an ES.

AAPA, like Kalra, does not teach or suggest having the complexity of the scene description depend or conform to the complexity of an ES. Instead, both Kalra and AAPA simply address the compression of various elements of the VRML format and ESes, respectively. Neither reference makes the connection that the scene itself would benefit from modification as a result of the changes brought on by compression of the video or image content.

Accordingly, Kalra and AAPA fail to teach or suggest all the features of claim 34. For similar reasons stated above, claim 99 also overcomes the combination of Kalra and AAPA.

VIII. CLAIMS

A copy of the claims involved in the present appeal is attached hereto as Appendix A. As indicated above, the claims in Appendix A include the amendments filed by Appellant on May 28, 2008, and do not include the amendment(s) filed on May 28, 2008.

Appellant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 18-0013, under Order No. SON-2196 from which the undersigned is authorized to draw.

Dated: March 9, 2009

Respectfully submitted,

By _____

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APPENDIX A

Claims Involved in the Appeal of Application Serial No. 09/931,577

1. A data transmission system comprising:

a transmitting apparatus that transmits a scene description; and

a receiving apparatus that constructs a scene according to the scene description;

wherein the transmitting apparatus comprises:

an elementary stream (ES) processing means that transfers at least one ES, which conforms to at least one of a transmission line state and a request issued from the receiving apparatus,

a scene description processing means that transfers and modifies a scene description to conform to a corresponding quality of the at least one ES from the ES processing means by adjusting the properties assigned to the ES within the scene description, and

wherein the transmitting apparatus appends time information to the at least one ES and the scene description; and

wherein the receiving apparatus monitors the time information sent from the transmitting apparatus and detects a delay in transmission using the time information.

14. A data transmitting method for transmitting a scene description that describes at least one elementary stream (ES) used to construct a scene, and constructing the scene according to the scene description, comprising:

transmitting at least one ES, which conforms to at least one of a transmission line state and a request issued from the receiving side;

transmitting a scene description that conforms to the at least one ES;

appending time information to the transmitted scene description; and

monitoring the time information to detect delays in transmission using the time information.

27. A data transmitting apparatus for transmitting a scene description that describes at least one elementary stream (ES) used to construct a scene, comprising:

an ES processing means that transfers at least one ES, which conforms to at least one of a transmission line state and a request issued from a receiving side;

a scene description processing means for transferring and modifying a scene description, in accordance with the at least one ES from the ES processing means, by adjusting the properties assigned to the ES within the scene description.

28. A data transmitting apparatus according to Claim 27, further comprising:

a memory means in which a plurality of predefined scene descriptions are stored corresponding to a plurality of possible qualities of the at least one ES;

wherein the scene description processing means selects the scene description from among the plurality of scene descriptions stored in the memory means, and transmits the ~~said~~ scene description.

29. A data transmitting apparatus according to Claim 27, further comprising:

a memory means in which at least one predefined scene description is stored;

wherein the scene description processing means converts a predefined scene description read from the memory means into the scene description based on the corresponding quality of the at least one ES, and transfers the scene description.

30. A data transmitting apparatus according to Claim 27, wherein the scene description processing means encodes the scene description and transmits the scene description.

32. A data transmitting apparatus according to Claim 27

wherein the scene description processing means transfers the scene description, which comprises information necessary for the receiving side to decode the at least one ES from the ES processing means.

33. A data transmitting apparatus according to Claim 27, further comprising:

wherein the scene description processing means transfers a scene description that specifies whether the at least one ES is to be used to construct a scene are used or not.

34. A data transmitting apparatus according to Claim 27, wherein the scene description processing means transfers a scene description whose complexity conforms to the at least one ES.

35. A data transmitting apparatus according to Claim 34, wherein the scene description processing means transfers a scene description, wherein a first scene part within a scene is replaced with a second scene part whose complexity is different from the complexity of the first scene part, in accordance with the at least one ES.

36. A data transmitting apparatus according to Claim 34, wherein the scene description processing means transfers a scene description, in which a scene part within a scene is removed or a new scene part is added to the scene, in accordance with the at least one ES.

37. A data transmitting apparatus according to Claim 34, wherein the scene description processing means modifies a quantization step, in which a scene description is encoded, in accordance with the at least one of the transmission line state, the request issued from the receiving side, and the at least one ES.

38. A data transmitting apparatus according to Claim 27, wherein the scene description processing means divides a scene description into a plurality of decoding units in accordance with the at least one of the transmission line state, the request issued from the receiving side, and the at least one ES.

39. A data transmitting apparatus according to Claim 38, wherein the scene description processing means adjusts a time interval between time instants at which the receiving side decodes each of the plurality of decoding units into which a scene description is divided.

40. A data transmitting method for transmitting a scene description that describes the properties of at least one elementary stream (ES) used to construct a scene, comprising:

transmitting at least one ES, which conforms to at least one of a transmission line state and a request issued from the receiving side;

transmitting a scene description in accordance with the corresponding quality of the at least one ES;

appending time information to at least one of the transmitted scene description and the at least one ES.

41. (Previously presented) A data transmitting method according to Claim 40, further comprising:

storing a plurality of predefined scene descriptions corresponding to a plurality of possible qualities of the at least one ES; and

selecting the scene description from among the plurality of scene descriptions.

42. (Previously presented)A data transmitting method according to Claim 40, further comprising:

storing at least one predefined scene description; and

converting a predefined scene description into another scene description corresponding to the quality of the at least one ES.

43. A data transmitting method according to Claim 40, further comprising encoding the scene description.

45. A data transmitting method according to Claim 40,

wherein the scene description further comprises information necessary for the receiving side to decode the at least on ES.

46. A data transmitting method according to Claim 40,

wherein the scene description specifies whether to use the at least one ES.

48. A data transmitting method according to Claim 40, further comprising a first scene part within a scene with a second scene part, whose complexity differs from the complexity of the first scene part, in accordance with the at least one ES.

49. A data transmitting method according to Claim 40, further comprising modifying the scene description, by removing a scene part within a scene or adding a new part to the scene, in accordance with the at least one ES.

50. A data transmitting method according to Claim 40, further comprising modifying a scene description encoding step is accordance with a quantization step in accordance with the at least one of the transmission line state, the request issued from the receiving side, and the at least one ES.

51. A data transmitting method according to Claim 40, further comprising dividing the scene description into a plurality of decoding units in accordance with at least one of the transmission line state, the request issued from the receiving side, and the at least one ES.

52. A data transmitting method according to Claim 51, comprising

adjusting the division step in accordance with a time interval between time instants at which a receiving side decodes each of the plurality of decoding units.

78. A data transmission system comprising:

a transmitting apparatus that transmits a scene description; and

a receiving apparatus that constructs a scene according to the scene description;

wherein the transmitting apparatus comprises:

a elementary signal (ES) processor that transfers at least one ES used to construct the scene, in accordance to the transmission capacity, and

a scene description processor that transmits a scene description and a time information, the scene description conforming to a transmission capacity, the transmission capacity being derived from at least one of a transmission line state, a request issued from the receiving apparatus, or known available resources of the receiving apparatus;

wherein the receiving apparatus monitors the time information sent from the transmitting apparatus to detect a delay in the transmission; and

wherein the scene description includes objects, the objects comprising at least one node and at least one signal used to construct the scene, each the node describing an object or a relationship between objects.

95. A data receiving apparatus for receiving a scene description that describes at least one elementary stream (ES) used to construct a scene, comprising:

an ES decoding unit that receives at least one ES, which conforms to at least one of a transmission line state and a request issued from the data receiving apparatus;

a scene description decoding unit for constructing a scene description, in which the properties assigned to the ES within the scene description conform to the at least one ES.

96. A data receiving apparatus according to Claim 95, wherein the scene description is transmitted from a server side which includes a scene description processing unit that selects the scene description from among the plurality of scene descriptions stored in a memory, and transmits the scene description.

97. A data receiving apparatus according to Claim 95, wherein the scene description is transmitted from a server side which converts a predefined scene description read from a memory into the scene description based on the corresponding quality of the at least one ES, and transmits the scene description.

98. A data receiving apparatus according to Claim 95, wherein the scene description specifies whether the at least one ES is to be used to construct the scene.

99. A data receiving apparatus according to Claim 95, wherein the scene description complexity conforms to the at least one ES.

100. A data receiving apparatus according to Claim 99, wherein the scene decoding unit receives a scene description, wherein a first scene part within a scene is replaced with a second scene part whose complexity is different from the complexity of the first scene part, in accordance with the at least one ES.

101. A data receiving apparatus according to Claim 99, wherein the scene description decoding unit receives a scene description, in which a scene part within a scene is removed or a new scene part is added to the scene, in accordance with the at least one ES .

102. A data receiving apparatus according to Claim 99, wherein the scene description is received in portions encoded based on a quantization step, in accordance with the at least one of the transmission line state, a request issued from the data receiving apparatus, and the at least one ES.

103. A data receiving apparatus according to Claim 95, wherein the scene description is received in a plurality of divided parts encoded by a transmitting apparatus in accordance with the at least one of the transmission line state, the request issued from the receiving side, and the at least one ES.

104. A data receiving apparatus according to Claim 103, wherein the scene transmitting apparatus adjusts a time interval between time instants at which the data receiving apparatus decodes each of the plurality of divided parts into which the scene description is divided.

105. A data receiving method for receiving a scene description that describes the properties of at least one elementary stream (ES) used to construct a scene, comprising:

receiving at least one ES, which conforms to at least one of a transmission line state and a request issued from a receiving side;

receiving a scene description in accordance with the corresponding quality of the at least one ES;

wherein time information is appended to at least one of the received scene description and the at least one ES.

106. A data receiving method according to Claim 105, wherein the scene description is selected from among a plurality of predefined scene descriptions corresponding to a plurality of possible qualities of the at least one ES.

107. A data receiving method according to Claim 105, wherein the scene description is created by converting a predefined scene description based on the corresponding quality of the at least one ES.

108. A data receiving method according to Claim 105, wherein the scene description further comprises information necessary for the receiving side to decode the at least one ES.

109. A data receiving method according to Claim 105, wherein the scene description specifies whether to use the at least one ES.

116. A data receiving method according to Claim 105, wherein in the scene description, a first scene part is replaced with a second scene part, whose complexity differs from the complexity of the first scene part, in accordance with the at least one ES .

117. A data receiving method according to Claim 105, wherein in the scene description, a scene part is removed or added, in accordance with the at least one ES.

118. A data receiving method according to Claim 105, wherein the scene description is encoded in a quantization step, in accordance with the at least one of the transmission line state, the request issued from the receiving side, and the at least one ES.

119. A data receiving method according to Claim 105, wherein the scene description is divided into a plurality of decoding units in accordance with at least one of the transmission line state, the request issued from the receiving side, and the at least one ES.

120. A data receiving method according to Claim 114, wherein the scene description is divided in accordance with a time interval between time instants at which a receiving side decodes each of the plurality of decoding units.

APPENDIX B

No evidence pursuant to §§ 1.130, 1.131, or 1.132 or entered by or relied upon by the examiner is being submitted.

APPENDIX C

No related proceedings are referenced in II. above, hence copies of decisions in related proceedings are not provided.